Formation and elimination of cracks in ....

tor of 1.4 and thus to decrease the tendency to crack formation, The best results were obtained with a coating consisting of 43% red clay, 26% refractory clay, 6% fluorspar and 25% lime. The authors comment on the hydrodynamics of steel pouring, mold design and steel shrinkage conditions in the mold, factors that affect the ingot surface quality to a great extent. It is pointed out that the best ingot surface is obtained with a total casting duration of the ingot which is approximately equal to the time of clearance formation in the lower ingot part. The speed and temperature of the circulating steel flow along the front of the crystallizing metal determines to a considerable extent the thickness of the crystallizing skin. Concluding, the authors emphasize that in the production of large-size ingots, top casting is to be preferred to bottom casting.

X

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S/133/62/000/004/002/008
A054/A127

AUTHORS: Kuzema, I.D.; Yefimov, V.A.; Chernyshev, I.S.; Grebenyuk, V.P.; Oleshkevich, T.I.;

TITLE: Selecting the parameters of large-sized slabs

PERIODICAL: Stal', no. 4, 1962, 312 - 313

TEXT: The geometry of slabs is characterized by the width-to-thickness ratio (k) and the length-to-width ratio (k_1). A k-ratio above 2 causes cracks in the slabs and renders their finishing more difficult. When forming slabs with a k = 1,72ratio these drawbacks are eliminated, but the slabs will be far too thick, while, moreover other difficulties arise: more passes are required in rolling, more metal is lost in cutting off the edges, etc. Tests to cast large--sized slabs with a k-ratio above 2 without cracks were carried out by imparting a wavy shape to the side-wall surfaces, while the effect of the mold shape on the solidifying skin was also studied. In slabs with a high k (width-to-thickness) ratio deep longitudinal cracks are mainly caused by stresses developing in the skin prior to its separation from the mold-wall. The skin is also subjected to bending moments. The higher the k-value, the greater the stresses working in

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the skin. The bending moments, however, could be reduced considerably by giving the broad side of the slab a wavy shape. In that case the shrinkage of the skin takes place progressively, starting from the angles to the centre. If several waves are formed on the broad side of a slab with a high k-value the gap formation is slowed down and the thin skin plays the part of a reinforcing continuous beam. Slabs, 5 - 7 tons in weight were tested, with width-to-thickness ratios of 2.3, 2.31 and 2.2. The best results were obtained with slabs on whose sides the curvature radius of the wave crest was not more than 5 mm. In another test series 11 - 15-ton slabs were tested with 5 - 5 waves on their broad sides and satisfactory crackfree surfaces were obtained in 70% of the output. By improving the geometry of the waves still further and increasing their depth to 24 mm the crack formation could be eliminated completely. When applying waves of the required length and depth and sufficiently acute angles, it is possible to cast large-sized ingots with a width-to-thickness ratio of more than 2.2. There are 5 figures.

ASSOCIATION: Zavod im. Il'icha (Plant im. Il'ich) and Institut gaza AN UkrSSR (Institute of Gas(es) of the Academy of Sciences UkrSSR)

S/133/62/000/012/001/012
A054/A127

AUTHORS: Yefimov, V.A., Candidate of Technical Sciences, Legenchuk, V.I., Sivtsov, G.V., Konovalov, I.M., Bykov, G.D., - Engineers

TITLE: Top-pouring steel under slag

PERIODICAL: Stal', no. 12, 1962, 1,074 - 1,078

TEXT: To improve the quality of the surface of top-poured low-carbon steel ingots, the processes taking place at the contact-surfaces of metal, slag and ingot-mold have been investigated at the Cherepovetskiy metallurgicheskiy zavod (Cherepovetsk Metallurgical Plant). The quality of the ingot surface is known to depend on the size of the liquid metal meniscus forming at the place of contact between mold wall and metal. The radius of this convex meniscus depends on the surface stresses at the boundary between metal and liquid slag. It was found that addition of synthetic slags on the mold bottom considerably improved the conditions of skin formation and, consequently, also the quality of the metal surface. For, if the slowly rising metal is covered by a low-smelting slag layer, the latter will protect the metal against oxidation and cooling, it will adsorb

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Top-pouring steel under slag

the high-smelting reduction products and prevent the creasing of the skin. The liquid slag penetrates between the metal meniscus and the mold wall and forms a heat-insulating layer. This will cause the skin of the metal to cool down more slowly and will reduce the shrinkage stresses. The slag composition must ensure a heat-insulating layer of optimum thickness between mold wall and ingot. The greater the meniscus radius, the thicker the slag crust will be. The optimum surface tension of the slag must be determined experimentally. The required viscosity of the synthetic slag can be ensured by addition of liquefiers. Moistening of the mold wall tends to thicken the solidifying slag layer. It is advisable to coat the mold wall with a substance of high surface tension, such as aqueous graphite suspension or lime milk. The method has been applied in the top-pouring of Ст.3сп (St.3sp), 3т (3t) and 19 Г (19G) low-carbon grades. The following slag compositions were tested:

	A	B	C	D	E
Components, %					
cupola furnace slag	-	100	90	95	93
fluorite	24	-	10	5	7
Grain size, mm	1-0	3-0	3-0	5-2	3-0

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Top-pouring steel under slag

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Chemical composition, %	A	B	C	D	E
CaO	20.0	26.7	24.2	24.2	30.0
SiO_2	15.2	43.2	39.0	43.0	40.5
Al_2O_3	22.8	18.9	17.1	12.9	10.9
CaF_2	38.0	—	9.5	4.6	6.5
FeO	2.0	5.6	5.0	9.7	7.0
MgO	2.0	2.0	1.8	1.7	2.1
MnO	—	3.6	3.4	3.9	3.0
Surface tension (calculated, dyne/cm)	425	428	421	402	403

Slag was fed into the mold prior to pouring, in some tests it was also added onto the metal surface during pouring. To accelerate the smelting of the slag, the quantity of fluorite was raised to 25%; at the beginning of the tests the amount of slag added was 60 - 80 kg, later this was reduced to 40 kg (3 kg/ton), because when greater amounts were added, the bottom part of the ingot deteriorated. The favorable effect of the new method can be seen from a comparison of the defect percentages of conventional and slag-poured ingots: the amount of cracks and

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Top-pouring steel under slag

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fissures in the latter was reduced by a factor of 4, that of scales by a factor of 6. The labor consumption for cleaning the 13.6-ton slabs poured under slag decreased by a factor of more than 2. The article contains formulae for the calculation of the forces involved in the formation of the meniscus and the slag layer. There are 4 figures.

ASSOCIATION: Institut ispol'zovaniya gaza AN USSR (Institute of Gas-Utilization of the Academy of Sciences of the Ukrainskaya SSR) and Cherepovetskiy metallurgicheskiy zavod (Cherepovetsk Metallurgical Plant)

Card 4/4

KUZEMA, I.D.; YEFIMOV, V.A.; CHERNYSHEV, I.S.; GREBENYUK, V.P.; OLESHDEVICH, T.I.

Selecting parameters of large sheet ingots. Stal' 22 no.4:312-313 Ap '62. (MIRA 15:5)

1. Metallurgicheskiy zavod im. Il'icha i Institut gaza USSR.
(Steel ingots)

YEFIMOV, V.A., kand.tekhn.nauk; LEGENCHUK, V.I., inzh.; SIVTSOV, G.V., inzh.; KONOVALOV, I.M., inzh.; BYKOV, G.D., inzh.; TATYANSHCHIKOV, A.G., inzh.

Top pouring of steel under slag. Stal' 22 no.12:1074-1078 D '62. (MIRA 15:12)

1. Institut ispol'zovaniya gaza AN UkrSSR i Cherepovetskiy metallurgicheskiy zavod.

(Steel [redacted])

YEFIMOV, Viktor Alekseyevich; OSIPOV, Vladimir Prokof'yevich; GREBENYUK, Vladimir Pavlovich; CHERNYAKHOVSKIY, Yu.A., red.izd-va; ISLENT'YEVA, P.G., tekhn. red.

[Ways to improve the pouring of steel] Puti usovershenstvovaniia razlivki stali. Moskva, Metallurgizdat, 1963. 183 p. (MIRA 17:3)

YEFIMOV, V.A., doktor tekhn. nauk; KUZEMA, I.D., kand. tekhn. nauk; ZHIGULA, A.V., inzh.; SAPKO, V.N., inzh.; KISSEL', N.N., inzh.; CHERNYSHEV, I.S., inzh.; ZARUBIN, N.G., inzh.; STRYAPIN, I.Ya., inzh.; OLESHKEVICH, T.I., inzh.; SONIN, G.V., inzh.; PUKALOV, V.P., inzh.

Rapid top pouring of rimmed steel from ladles with a capacity from 350 to 480 tons. Stal' 24 no.1:30-32 Ja '64. (MIRA 17:2)

YEFIMOV, V.A., inzh.

Replacement of forged flange collars with welded ones. Energetik 12 no.2:13-14 F '64. (MIRA 17:4)

KOCHO, Valentin Stepanovich, doktor tekhn. nauk, prof.; SAMSONOV, Grigoriy Valentinovich, doktor tekhn. nauk, prof.; STREL'CHENKO, Aleksandr Grigor'yevich, kand. tekhn. nauk; KISLYY, Pavel Stepanovich, kand. tekhn. nauk; YEFIMOV, V.A., doktor tekhn. nauk, retsenzent;

[Continuous liquid steel temperature control in the finishing period of open-hearth smelting] Nepreryvnyi kontrol' temperatury zhidkoi stali v period dovodki martenovskoi plavki. [By] V.S.Kocho i dr. Kiev, Tekhnika, 1965. 226 p. (MIRA 18:4)

1. Chlen-korrespondent AN Ukr.SSR (for Samsonov).

SHEVCHENKO, A.T.; MALAKHOV, V.B.; YEFIMOV, V.A., doktor tekhn. nauk

Pouring of steel under slag of exothermal mixtures with graphite. Met. i gornorud. prom. no.4:74-76 Jl-Ag '65. (MIRA 18:10)

1. Institut problem lit'ya AN UkrSSR.

YEFIMOV, V.A., inzh. (Sverdlovsk)

Testing the heat-supply main from the Stredne-Ural'sk State Regional Electric Power Plant to Sverdlovsk for estimated temperature of heat carriers. Vod.i san.tekh. no.4:23-25 Ap '65.

(MIRA 19:1)

YEFIMOV, V.A., doktor tekhn. nauk; LUZAN, P.P., kand. tekhn. nauk; KHAN, B.Kh., kand. tekhn. nauk; KOSTYRKO, O.S., kand. tekhn. nauk

Scientific and technical conference on the theory and practice of founding processes. Lit. proizv. no.12:33-34 D '65. (MIRA 18:12)

ANTIPIN, I.P.; YEFIMOV, V.I.; SAVCHENKO, M.K.; EDEL'MAN, I.S.

Effect of mechanical deformations on the domain structure and hysteresis loops of thin magnetic films. Izv. AN SSSR. Ser. fiz. 29 no.4:620-625 Ap '65. (MIRA 18:5)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR i Krasnoyarskiy gosudarstvennyy pedagogicheskiy institut.

YEFIMOV, V. Dec 52

USSR/Metallurgy - Nonferrous Metals, Plastic Substitutes

"Conservation of Nonferrous Metals," V. Yefimov, Supervisor of Technical Standardization Group, Dorogomilovo Chemical Plant im Frunze

Za Ekon Materialov, No 5, pp 63-65

Discusses various substitutes for nonferrous metals, mostly lead, used at chem plants. Most essential substitutes are textolite and faolite. Latter is used, in addition to other purposes, for facing cast iron which replaces bronze in some valves of 1 to 4-inch size. Mentions expts on replacing lead lining in some chem apparatus by graphite plates impregnated with phenol-formaldehyde resin.

Source #264T60

YEFIMOV, V.

Electric record playing systems for radio-and-phonograph sets.
Tekh. est. 2 no. 10:16-17 O '65 (MIRA 19:1)

1. Institut radioveshchatel'nogo priyema i akustiki.

YEFIMOV, V.

USSR/ Electronics - Radio receivers

Card 1/1 Pub. 89 - 19/40

Authors : Efimov, V.

Title : Radio receiver "Kiev Б-2" (Kiev B-2)

Periodical : Radio 10, 25-26, Oct 1954

Abstract : A radio-receiver set "Kiev B-2", designed by a group of engineers of a Kiev radio factory, is described in detail. The set is an improved "Riga Б -912" type radio receiver manufactured by the A.S. Popov Radio Factory in Riga. Coil-windings data are tabulated. Illustrations; circuit diagram; table.

Institution: .....

Submitted: .....

YEFIMOV, V.

USSR/ Electronics - Sound recording

Card 1/1 Pub. 89 - 14/21

Authors : Yefimov, V.

Title : Magnetophones "Dnepr-5" and "Dnepr-8".

Periodical : Radio 7, 37 - 42, Jul 1955

Abstract : The mass production of sound recorders and reproducers "Dnepr-5" and the portable "Dnepr-8" is announced by the Kiev Radio Plant of the Ministry of Consumer Goods and Fuel Industry, Ukr. SSR. The structural and qualitative characteristics of the recorders are described. Tables; diagrams, illustrations.

Institution : .....

Submitted : .....

YEFIMOV, V. (Kiyev)

"Radiocombine." Radio no.3:15 Mr '56. (MLRA 9:6)
(Radio--Receivers and reception)

YEFIMOV, V.

AID P - 5029

Subject : USSR/Electronics

Card 1/1 Pub. 89 - 14/14

Author : Yefimov, V.

Title : Universal radio receiver "Ukraina"

Periodical : Radio, #9, 63 and inside cover facing p. 64, S 1956

Abstract : The author describes the radio receiver "Ukraina" designed and built by the Kiyev Radio Equipment Plant. The receiver was exposed at the 1956 World's Fair in Leipzig, Germany, and at the 34th International Fair in Milano, Italy. One connection diagram, 1 photograph.

Institution : None

Submitted : No date

Yefimov, V.

107-9-36/53

AUTHOR: Yefimov, V., Kiyev

TITLE: The "Dnepr-9" Tape Recorder (Magnitofon "Dnepr-9")

PERIODICAL: Radio, 1957, # 9, p 46-48 (USSR)

ABSTRACT: One of the Kiyev radio plants developed and will start the production of the new tape recorder "Dnepr-9", utilizing for the first time the standard tape spools "18-K" and "18-П". The new "Dnepr-9" tape recorder corresponds to "ГОСТ 8088-56" standard and represents an improved version of the "Dnepr-5". For recording, tapes of type 1 ("C") for 1-70-6,000 cps and the type 2 ("CH") for 50-8,000 cps may be used. The sensitivity of the microphone input is 3 millivolts, the input resistance is 3 kilo-ohms; the sensitivity of the pick-up input is 200 millivolts, the input resistance is 150 kilo-ohms; the sensitivity of the relay (or radio) input is 10 volts with an input resistance of 10 mega-ohms. The nominal output power is minimum 2 watts for the type 1 ("C") tape and minimum 2.5 watts for the type 2 ("CH") tape. The non-linear distortion factor does not exceed 5 % at the frequency of 400 cps. The relative noise-level is 35 db, the peak-value of the total detonation is ± 0.6 %, the detonation at individual frequencies in the band of 0.5-300 cps is ± 0.2 %.

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The frequency of the recording oscillator is at least 35 kilocycles, the network power consumption does not exceed 100 watts, the tape-speed is 19.05 cm/sec, the speed deviation from the nominal value ± 1 %.

The acoustic quality of the tape recorder was improved by utilizing 2 loudspeakers of "2ГД-3" and "1ГД-9" types and by introducing separate HF and LF tone controls (max. 8 db at 60 cps and max. 12 db at 1,000 cps). A visual "6E5C" type indicator is utilized for determining the recording level.

The amplification of the recording is realized by a 4-stage amplifier containing 2 "6H8C"double triodes. The "6П6С" type output tube operates in the supersound frequency oscillator for recording and erasing.

The noise-level reduction is also described in this article. The rectifier has a full-wave circuit containing the "6Ц5С" tube. The winding data of the other parts are given in tables 3,4 and 5. The main deficiency of the new tape recorder is the cable drive of the control knob and the mechanical stop mechanism of the "Dnepr-5". The magnetic clutch systems used in foreign models give much better results.

The article contains 4 figures and 5 tables.

AVAILABLE: Library of Congress

YEFIMOV, V. (RA6KhAB); MAKHLAYUK, V. (RA6KhAA)

"Day in the field." Radio no.7:15-16 Jl '58. (MIRA 11:9)
(Radio,Shortwave--Competitions)

YEFIMOV, V.

Old shortcomings in the new machinery. Okhr. truda i sots. strakh. 3 no.8:42 Ag '60. (MIRA 13:9)

1. Starshiy inzhener po tekhnike bezopasnosti zavoda "Penzteksatil'-mash," g. Penza.

(Metal cutting--Safety measures)

YEFIMOV, V.

Composition of the agricultural labor force and technological progress. Biul. nauch. inform.: trud i zar. plata 4 no.3:37-45 '61. (MIRA 14:3)

(Agricultural laborers) (Farm mechanization)

ACC NR: AP7000342 (A,N) SOURCE CODE: UR/0413/66/000/022/0104/0104

INVENTOR: Yefimov, V. V.

ORG: none

TITLE: Device for controling air-flow rate. Class 42, No. 188700

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 22, 1966, 104

TOPIC TAGS: flow control, air flow, flow rate, count rate meter, FLOW REGULATOR

ABSTRACT: An Author Certificate has been issued for an air-flow-rate control device, consisting of a housing, a sensor made in form of a spring-loaded membrane (with lower and upper rigid centers of different effective area) with movable contacts, and an adjusting device. To improve the reliability of this device and decrease its size, the adjusting device consists of an elastic element with one end connected to the membrane's lower rigid center and with the other end to the base of the housing. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 19Jun65

Card 1/1 681.121:62 553

YEFIMOV, V.V.; GONCHAROV, V.M.; FERANIDI, K.I.; TROITSKIY, Yu.L.

Hole boring by means of electric core drills with flushing in two Karaganda Basin mines. Ugol' 40 no.12:61-62 D '65.
(MIRA 18:12)

1. Karagandinskiy nauchno-issledovatel'skiy ugol'nyy institut.

YEFIMOV, V.F., inzh.; IVANOV, A.A., inzh.; LEYTIN, G.S., inzh.; PAVLOVA, Ye.S., inzh.; TSALIT, O.N., inzh.; ZHOGOLEV, V.S., inzh.

[Road and building machinery and mechanized building tools; catalog-reference book] Stroitel'nye i dorozhnye mashiny i mekhanizirovannyi stroitel'nyi instrument; katalog-spravochnik. Moskva, TSentr.biuro tekhn.informatsii Vniistroidormasha, 1958. 471 p. (MIRA 13:3)

1. Russia (1917- R.S.F.S.R.) Gosudarstvennaya planovaya komissiya Rosglavtyazhmashstanbsbyt. 2. TSentral'noye byuro tekhnicheskoy informatsii Vsesoyuznogo nauchno-issledovatel'skogo instituta stroitel'nogo i dorozhnogo mashinostroyeniya (TsBTI VNIIStroydormash)(for all).

(Building machinery) (Road machinery)

KUKUYEV, Ye.M.; YEFIMOV, V.F.; FLIORIN, B.S., otv.red.; VALENTINOV, A.M., red.; ABRAMYAN, A.A., red.; KISELEV, N.A., red.; METLIN, V.A., red.; AHDREYEV, G., tekhn.red.

[Handbook with nomenclature and prices for materials and equipment used in the coal industry] Nomenklaturnyi spravochnik i tseny na materialy i oborudovanie, primeniaemye v ugol'noi promyshlennosti. Moskva. Group 2. [Nonferrous metals] TSvetnye metally. 1950. 275 p. (MIRA 13:4)

1. Russia (1923- U.S.S.R.) Ministerstvo ugol'noy promyshlennosti. (Nonferrous metals)
(Coal mines and mining--Equipment and supplies)

SOV/86-58-11-31/37

AUTHOR: Yefimov, V. G., Maj

TITLE: The Time for Making Bombing Calculations Can Be Reduced (Vremya na raschety dlya bombometaniya mozhno sokratit')

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 11, p 87 (USSR)

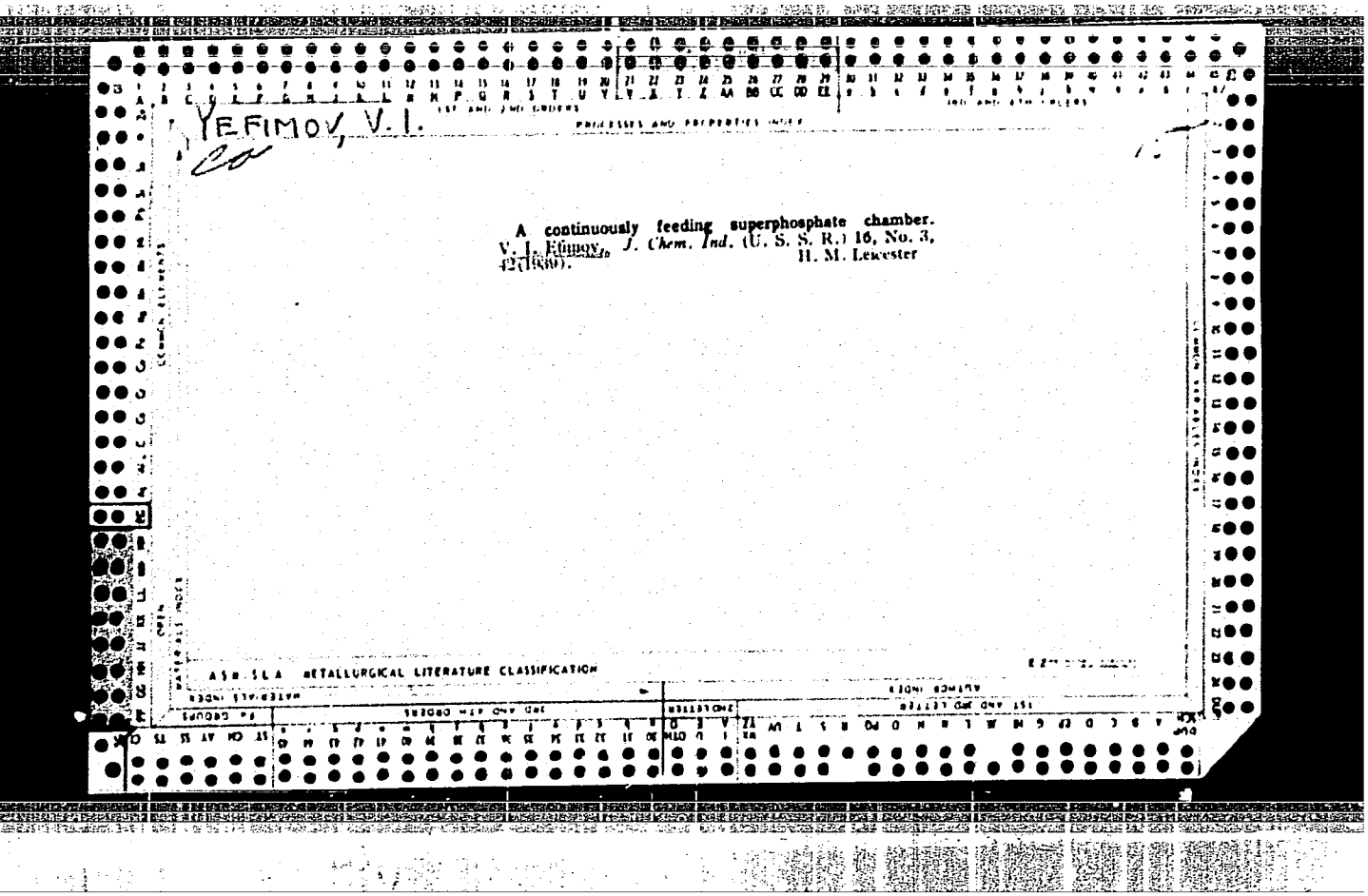
ABSTRACT: The author describes briefly a method by which the computation of the slant range can be made more easily and rapidly during an offset bombing. One diagram.

Card 1/1

YEFIMOV, V.G.

Attachement to a stand for testing plug-type relays. Avtom., telem.i sviaz' 7 no.3:33-35 Mr '63. (MIRA 16:2)

1. Starshiy inzh. kontrol'no-ispytatel'nogo punkta stantsii Syzran' Kuybyshevskoy dorogi.
(Railroads--Signaling)



UL'YEV, Petr Vasil'yevich; YEFIMOV, V.I., red.; KRASHENINNIKOVA, V.F., tekhn.red.

[Pages of the Stalingrad chronicle] Stranitsy Stalingradskoi letopisi. Stalingrad, Stalingradskoe knizhnoe izd-vo, 1958. 190 p. (MIRA 12:8)

(Stalingrad--Reconstruction)

YEFIMOV, V.I.; KHUDYAKOV, N.V.; SBITNEV, L.P.; ROMANOVSKIY, V.E.; KHOLIN, I.R.; POPOV, V.I.; OSIPOV, G.P.; PISKAREV, V.S.; AGAFONOV, Ye.F.; DORODNOV, P.G.; STRUKACHEV, V.I.; ZAYTSEV, Yu.A.

A.A.Klimov's book "Electricity in animal husbandry." Reviewed by V.I.Efimov and others. Elektrichestvo no.9:87-88 S '56. (MLRA 9:11)

1. Kafedra primeneniya elektricheskoy energii v sel'skom khozyaystve Stalingradskogo sel'skokhozyaystvennog instituta (for Yefimov, Khudyakov, Sbitnev, Romanovskiy, Kholin). 2. Kafedra primeneniya elektroenergii v sel'skom khozyaystve Saratovskogo instituta mekhanizatsii sel'skogo khozyaystva imeni Kalinina (for Popov, Osipov, Piskarev, Agafonov, Dorodnov, Strukachev, Zaytsev). (Electricity in agriculture) (Stock and stockbreeding)

ZEL'DIN, B.B., inzh.; YEFIMOV, V.I., inzh.

Three-dimensional designs. Shakht.stroi. 7 no.5:25-26 My '63.
(MIRA 17:4)

1. Dongiproshakht.

LAZAREV, Anatoliy Abramovich; ROZET, Isaak Yakovlevich; YEFIMOV, Viktor Ivanovich; PICHAK, F.I., kand. tekhn. nauk, red.; BEZUKLADNIKOV, M.A., red.; YERMAKOV, N.P., tekhn. red.

[KDM-100 engine; its design and operation] Dvigatel' KDM-100; ustroistvo i ekspluatatsiia. Izd.2. Moskva, Mashgiz, 1963. 257 p. (MIRA 16:9)
(Diesel engines)

LAZAREV, Anatoliy Abramovich; ROZET, Isaak Yakovlevich; YEFIMOV, Viktor Ivanovich; PICHAK, F.I., kand.tekhn.nauk, red.; YERMAKOV, M.P., tekhn.red.

[The KDM-100 engine; construction and operation] Dvigatel' KDM-100; ustroistvo i ekspluatatsiia. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1960. 254 p. (MIRA 13:5)
(Diesel engines)

L 50951-65 EWT(l)/EPA(s)-2/EWT(m)/EWP(i)/EWA(d)/T/EWP(t)/EEC(b)-2/EWP(z)/EWP(b)
Pt-7/Pi-4 IJP(c) JD/HW/GG
ACCESSION NR: AP5011444 UR/0048/65/029/004/0620/0625 30

AUTHOR: Antipin,I.P.; Yefimov,V.I.; Savchenko,M.K.; Edel'man,I.S. 21

TITLE: Domain structure and hysteresis loops of thin ferromagnetic films subjected to strain /Report, Second All-Union Symposium on the Physics of Thin Ferromagnetic Films held in Irkutsk, 10-15 July 1964/ III

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 4, 1965, 620-625

TOPIC TAGS: ferromagnetic thin film, magnetic property, hysteresis loop, permalloy, iron, cobalt 27 16

ABSTRACT: Mechanical stresses of some magnitude (depending on a number of factors) are inevitably present in ferromagnetic films deposited on substrates. These stresses must necessarily affect and alter the magnetic properties and behavior of the films. Obviously, for investigating the magnetic characteristics of films it is important to know the effects of such stresses, yet hitherto there have been only a few studies devoted to this factor. Accordingly, the present study was undertaken for the specific purpose of determining the effects of strain on the domain structure and hysteresis loops of Permalloy (50% Ni - 50% Fe), iron and

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ACCESSION NR: AP5011444

cobalt films. The films were prepared by vacuum (10^{-5} mm Hg) evaporation of the material onto 20 x 20 mm glass substrates heated to 250°C. The dimensions of the deposited films were 15 x 15; the thickness varied in the range from 400 to 1000 Å. The tensile stress was applied to the films by bending the substrate glass plates; the value of the stress was calculated on the basis of the deflection, length of the plate between supports, and the elastic moduli of the film and glass. The domain structure was observed by the powder patter technique; the hysteresis loops were recorded oscillographically on a setup utilizing the Faraday effect (at 50 cps). A number of powder patters and the corresponding hysteresis loops are reproduced. The inference is that by and large the domain structure in thin films behaves in the same way as the domain structure of bulk specimens. Where no change in the domain structure under stress occurs, the hysteresis loop also remains the same, but the coercive force increases, presumably owing to increase of the wall energy because of increase of the effective anisotropy constants of the film. After rearrangement of the structure under strong stress, the initial easy direction becomes the hard direction and the loop acquires the corresponding "hard direction" shape. To avoid the influence of stresses one must use a material, such as 80% Ni Permalloy, with near zero magnetostriction. Orig. art. has: 1 formula, 5 figures, and 1 table.

Card 2/3

L 50961-65

ACCESSION NR: AP5011444

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya Akademii nauk SSSR (Physics Institute, Siberian Division, Academy of Sciences, SSSR); Krasnoyarskiy gosudarstvennyy pedagogicheskiy institut (Krasnoyarsk State Pedagogical Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: EM, EC

NR REF SOV: 000 OTHER: 003

Card 3/3

YEFIMOV, V.I.; KARMYSHEVA, V.A.

Materials on the fauna and ecology of rodents in the deserts of the northern Kara-Bogaz-Gol region. Izv. AN Turk. SSR. Ser. biol. nauk no.3:51-55 '64. (MIRA 18:2)

1. Turkmenskaya protivochumnaya stantsiya.

L 57752-65 EWG(j)/EWT(m) UR/0215/65/039/002/0315/0316

ACCESSION NR: AP5010365 15 B

AUTHOR: Yefimov, V. I.

TITLE: Effect of blocking the reticuloendothelial system in white rats during acute radiation sickness induced by polonium-210

SOURCE: Radiobiologiya, v. 5, no. 2, 1965, 315-316

TOPIC TAGS: animal, white rat, polonium-210, single radiation dose, radiation sickness, reticuloendothelial system, Trypan blue, unithiol

ABSTRACT: In a series of experiments on 120 male rats with radiation sickness induced by polonium-210, a colloidal Trypan blue solution was used to block the reticuloendothelial system and unithiol (2,3-dimercaptopropane sodium sulfonate) was used to form with the polonium a water soluble complex compound excreted through the kidneys. Po-210 (0.1 microcurie/kg) was injected subcutaneously and Trypan blue (10 ml/kg) in the form of a 1 or 2% solution was injected intravenously 2 or 24 hrs before polonium administration or 1-1.5 hrs after and was followed by a second intraperitoneal injection on the 9th, 18th or 27th day of the experiment. Unithiol (2% solution) was injected subcutaneously in a 100 mg/kg dose twice daily for three days of the 1st, 2d, 4th, and 5th weeks. Experimental and

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L 57752-65

ACCESSION NR: AP5010365

O

control groups of animals were killed on the 9th, 10th, and 30th day to determine polonium concentrations in the reticuloendothelial organs (liver, spleen, lymph nodes and lungs) and also in the kidneys and carcass remains. Findings show that in all cases parenteral injection of Trypan blue reduced subsequent polonium deposits in the reticuloendothelial organs apparently as a result of partial reticuloendothelial system blocking. The blocking effect lasts up to 30 days after a single Trypan blue injection. The survival rate of "blocked" animals was approximately the same as that of control animals. With Trypan blue and unithiol administration, the survival rate of animals was 1.3-1.7 times less than for animals receiving only unithiol without a preliminary Trypan blue injection. A conclusion is drawn that under conditions of polonium induced radiation damage, blocking of the reticuloendothelial system with Trypan blue intensifies the course of radiation sickness despite a certain reduction of Po-210 deposits in the reticuloendothelial organs. Orig. art. has: None.

ASSOCIATION: None.

SUBMITTED: 07May63 ENCL: 00 SUB CODE: LS

NR REF GOV: 001 OTHER: 000

Card 2/2 dap

KUNITSYNA, T.A., dotsent; YEFIMOV, V.I., vrach

Use of the cytological method in the diagnosis of esophageal cancer. Sbor. nauch. rab. Sar. gos. med. inst. 44:260-266 '64. (MIRA 18:7)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. Popov'yan, I.M. [deceased]) Saratovskogo meditsinskogo instituta (rektor - dotsent N.R. Ivanov).

YEFIMOV, V.K.

Case of a perforation of the duodenum with a fish bone. Khirurgiia no.4: 86 Ap '53. (MLRA 6:6)

1. Khirurgicheskoye otdeleniye Zelenchukskoy rayonnoy bol'nitsy Stavropol'skogo kraya. (Duodenum)

YEFIMOV, V.K., inzhener; OSENNOV, V.I., inzhener.

Damage to the bearing gasket in the TGV-25 turbogenerator. Elek.sta. 27 no.2:56 F '56. (MLRA 9:6)
(Electric generators)

L 63537-65 EWT(n)-2/EPA(s)-2/EWA(h)/EWT(m)/EWP(b)/EWP(t) [illegible] IJP(c)

ACCESSION NR: AP5017828

UR/0286/65/000/011/0058/0058
621.521

35
B

AUTHOR: Malyshev, I. F.; Rybas, K. P.; Ivanov, B. A.; Yefimov, V. K.

TITLE: Device for evaporation of titanium. Class 27, No. 171500

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 11, 1965, 58

TOPIC TAGS: evaporation device, titanium evaporation

ABSTRACT: This Author Certificate introduces a device for evaporation of titanium by means of electron-beam heating in sorption-ionic pumps. The device contains an incandescent tungsten cathode and titanium condenser. To assure complete and uniform evaporation and to prevent overheating, the condenser from the side cathode is equipped with a refractory tantalum substrate. Orig. art. has: 1 figure. [AZ]

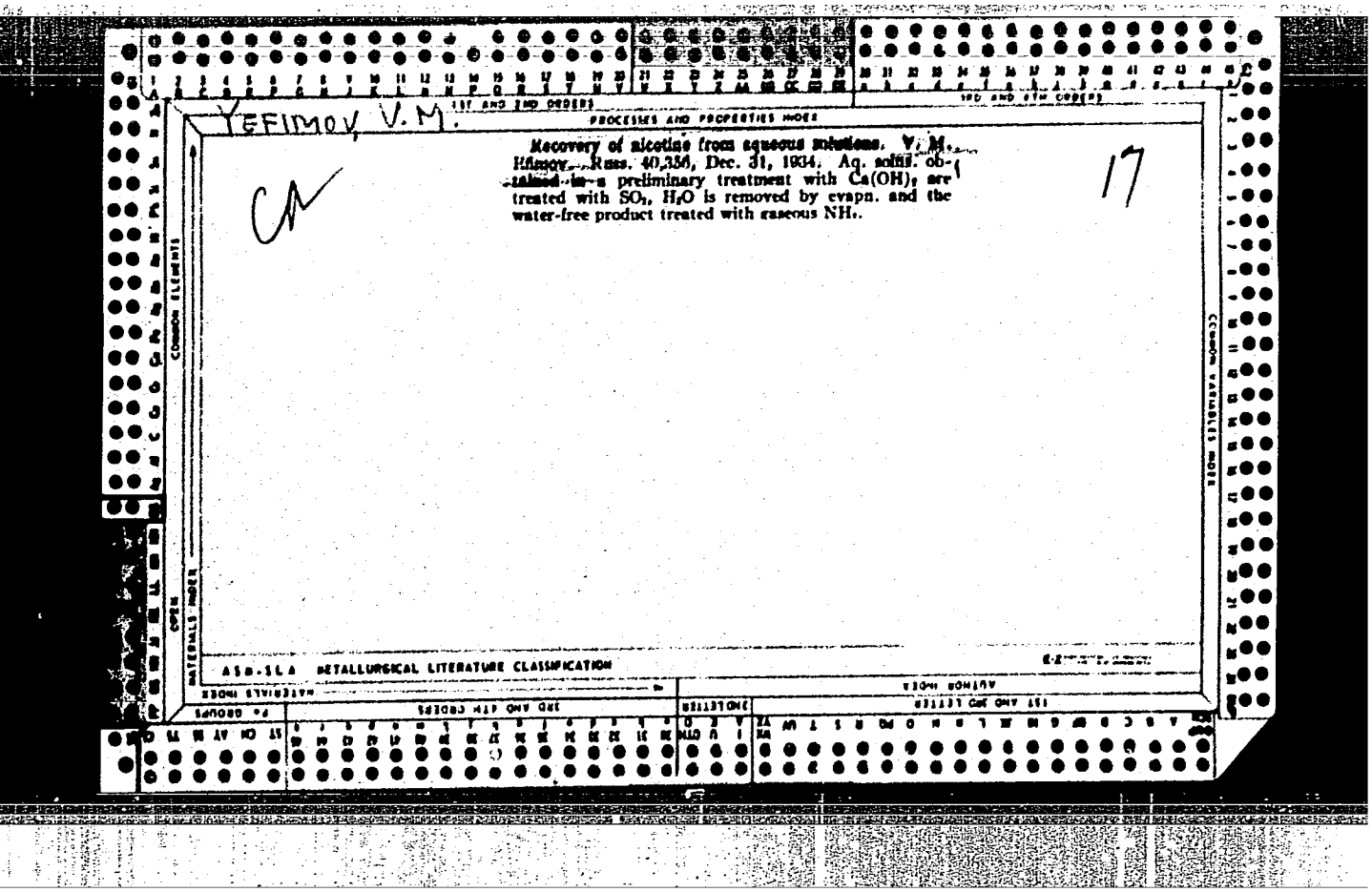
ASSOCIATION: Predpriyatiye gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR (State Committee on Atomic Energy Utilization, SSSR)

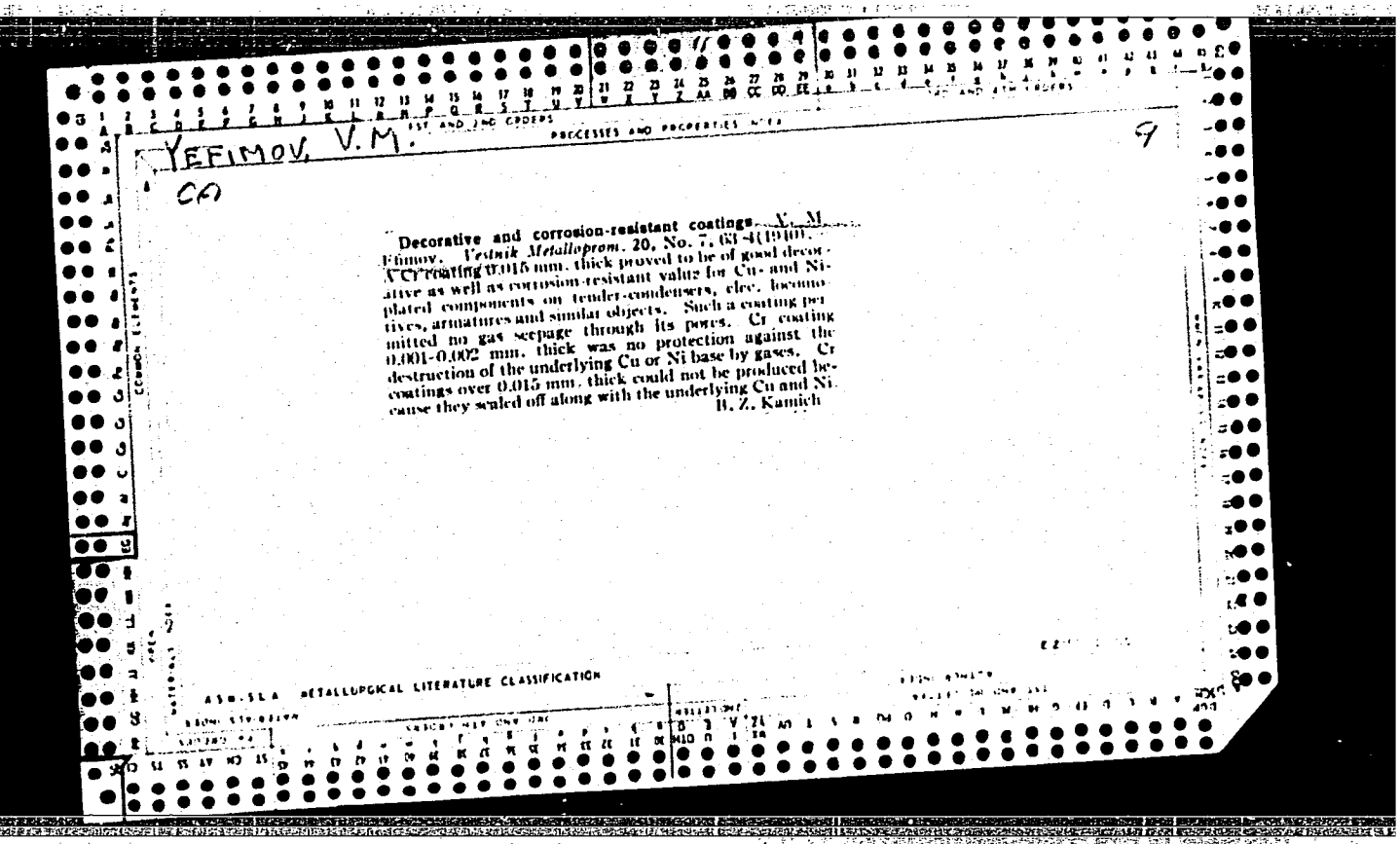
SUBMITTED: 10Jun63 ENCL: 00 SUB CODE: MM, NP

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4049

metal vapors

Card 1/1





YEFIMOV, V. M.

CA

Decorative and corrosion-resistant coatings. V. M. Efimov. *Vestnik Metallopromy.* 20, No. 7, 63-4(1940). A Cr coating 0.015 mm. thick proved to be of good decorative as well as corrosion-resistant value for Cu- and Ni-plated components on tender-condensers, elec. locomotives, armatures and similar objects. Such a coating permitted no gas seepage through its pores. Cr coating 0.001-0.002 mm. thick was no protection against the destruction of the underlying Cu or Ni base by gases. Cr coatings over 0.015 mm. thick could not be produced because they scaled off along with the underlying Cu and Ni.
H. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

STASUK, V. N.; YEFIMOV, V. M.

Elektrovozni Transport Na Otkritich Gornich Razrabotkach (Electric Locomotive Transport on Open Surface (Strip) Mines, Moscow, 1950.

YEFIMOV, V.M.; ROOKS, I.Kh.

Improvement of shale gas generators with lateral flow of heat carrier. Gaz. prom. 6 no.12:18-20 '61. (MIRA 15:2)
(Gas producers)

YEFIMOV, V.M.; DOYLOV, S.K.

Shale distillation generators with transverse heat-carrier flow. Khim. i tekh. gor. slan. i prod. ikh perer. no.10: 120-134 '62. (MIRA 17:5)

YEFIMOV, V.M.

Conference on the further improvement and automatic control of shale gas generators. Khim. i tekh. gor. slan. i prod. ikh perer. no.10:314-317 '62.

LIVSHITS, V.M.; YEFIMOV, V.M.; SUURKIVI, E.R.; DOYLOV, S.K.

Results of a balance test of the remodeled gas generators of the shale-chemical Kivioli Combine. Khim. i tekh. gor. slan. i prod. ikh perer. no.11:126-135 '62. (MIRA 17:3)

YEFIMOV, V.M.

Heat efficiency of air in a generator process. Khim. i tekh. gor. slan. i prod. ikh perer. no.11:136-142 '62. (MIRA 17:3)

YEFIMOV, V.M.; LILLE, Yu. [Lille, J.]; PIYK, E. [Piik, E.]; TUL'P, M. [Tulp, M.]; MURD, A.

Results of the heat treatment of Estonian shales in a small test gas generator. Khim. i tekh.gor.slan. i prod. ikh perer. no.12:90-105 '63. (MIRA 17:2)

YEFIMOV, V.M.; METSIK, R.E.

Dependence of the calcium chloride content in the generator tar and tar water on the technological conditions of gas generators. Khim. i tekh. gor. slan. i prod. ikh perer. no.10:278-284 '62. (MIRA 17:5)

PIYK, E.E. [Piik, E.]; YEFIMOV, V.M.; TUL'P, M.Yu. [Tulp, M.]

Tar recovery from the vapor-gas mixture in the condensation sections of gas producer shops. Khim. i tekh. gor. slan. i prod. ikh perer no.13:108-119 '64. (MIRA 18:9)

YEFIMOV, V.M. (Novosibirsk)

Determining the time interval between control operations by the probability criterion for the outlet of controlled parameter from the zone. Avtometriia no.1:101-111 '65. (MIRA 18:7)

L 4253-66 EWT(d) IJP(c)

ACCESSION NR: AP5018461 UR/0115/65/000/005/0003/0005
681.2.088.001.1

AUTHOR: Yefimov, V. M. 44,55

TITLE: Selecting the interpolation formula which increases the time interval between two measurements of a stationary random process

SOURCE: Izmeritel'naya tekhnika, no. 5, 1965, 3-5

TOPIC TAGS: random process 16,44,55

ABSTRACT: When some a-priori data about the measurand is available, the measurement should be made in time intervals T of such duration that the measurand value could be determined, with a specified error, at other moments of time. This near-optimal formula is recommended for the case of low error values:

$$X^*(t) = X(t_1)\frac{t_2 - t}{T} + X(t_2)\frac{t - t_1}{T} + \frac{\rho''(0)}{4}[X(t_1) + X(t_2) - 2m](t_2 - t)(t - t_1). \quad (7),$$

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L 4253-66

ACCESSION NR: AP5018461

The formula gives a function of two readings $X(t_1)$ and $X(t_2)$ and is most efficient in the case when the measurand is a narrow-band random function. Orig. art. has: 21 formulas.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MA

NO REF SOV: 007 OTHER: 001

Card 2/2

KARANDEYEV, Konstantin Borisovich; KARPYUK, Bogdan Vladimirovich; KASPEROVICH, Aleksandr Nikolayevich; PUSHNOY, Boris Mikhaylovich; RABINOVICH, Vladimir Izrailevich; SINITSYN, Boris Sergeyevich; TVERDOKHLEB, Petr Yemel'yanovich; TSAPENKO, Mikhail Petrovich; Prinimali uchastiye: [illegible]MOV, V.M., nauchn. sotr.; MATUSHKIN, G.G., nauchn. sotr.

[Electrical methods in automatic control] Elektricheskie metody avtomaticheskogo kontrolia. Moskva, Energiia, 1965. 383 p. (MIRA 18:8)

YEFIMOV, V.M.

Comparative evaluation of two methods for the quantization of a measured magnitude by time. Izv. SO AN SSSR no.6. Ser. tekh. nauk no.2:141-144 '65. (MIRA 18:11)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR, Novosibirsk.

YEFIMOV, V.M. (Novosibirsk)

Interpolation of random varying quantities with discrete measurement and control using the Lagrange polynomial. Avtometriia no.3: 19-25 '65. (MIRA 19:1)

1. Submitted Feb. 25, 1965.

YEFIMOV, V.M. (Novosibirsk)

Methods for determining time interval between readings during digital measurement. Avtometriia no.3:118-121 '65.
(MIRA 19:1)

1. Submitted Feb. 9, 1965.

L 9455-66 EWT(m)/EWP(j) RM

ACC NR: AP5025011 SOURCE CODE: UR/0286/65/000/016/0075/0075

AUTHORS: Takhtarov, G. N.; Trofimovich, D. P.; Gerlakh, L. R.; Podshibyakina, G. S.; Zaborina, N. B.; Lazovskaya, R. A.; Yefimov, V. M.; Kalachev, V. A.; Mayorov, D. A.

ORG: none

TITLE: Foam generator for an installation for continuous mixing and foaming of latex mixtures. Class 39, No. 173911 announced by the Scientific Research Institute for Rubber and Latex Products (Nauchno-issledovatel'skiy institut rezinovykh i lateksnykh izdeliy)

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 75

TOPIC TAGS: foam generator, latex foamer, latex mixer, SYNTHETIC RUBBER, RUBBER WORKING MACHINERY

ABSTRACT: This Author Certificate presents a foam generator (see Fig. 1)

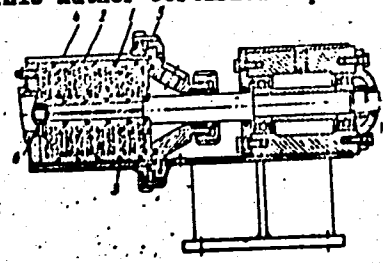

Fig. 1. 1 - Rotor; 2 - stator; 3 - seals; 4 - body; 5 and 6 - nuts.

UDC: 678.021.1:621.187.115

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L 9455-66

ACC NR: AP5025011

for installations for continuous mixing and foaming of latex mixtures. This device includes an electric drive on the shaft of which is mounted a rotor in the form of disks with concentric circular teeth on both sides which fit into the clearances between the circular teeth mounted on stator disks. To increase the foaming capability and capacity while decreasing the physical size, the rotor and stator consist of many-sectioned dismountable disk packets mounted through rotary seals inside a cylindrical body and tightened by nuts. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 05Mar64

Card 2/2

L 45942-66 EWT(d)/EWP(k)/EWP(h)/EWP(v)/EWP(1) BC
ACC NR: AP6015212 (N) SOURCE CODE: UR/0410/65/000/001/0101/0111

AUTHOR: Yefimov, V. M. (Novosibirsk)

48
46
B

ORG: none

TITLE: Determination of the time interval between control operations based on the criterion of the probability of emergence of the controlled parameter outside the zone

SOURCE: Avtometriya, no. 1, 1965, 101-111

TOPIC TAGS: information theory, probability, random function, automatic control theory

ABSTRACT: A determination is made in this paper of the necessary time interval between controlling operations as a function of the method in which the controlling process is organized, i.e., the method of acquisition and degree of utilization of information pertaining to the behavior of the parameter as collected during the controlling process. Two methods are considered: 1) A parameter is controlled at the instant of time t_0 with a state zone S_i determined for it. More detailed information on the position of the parameter value within this zone is lacking, and the result is memorized only by the final checkout operation. 2) The parameter to be controlled is tested at t_0, with its state zone S_i established on the basis of the results of this test. Previous test operation results are not stored. An error analysis and comparative estimate of both

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UDC: 681.2.08

of these cases is given. Recommendations are given on how the time intervals between controlling operations can be minimized. In conclusion, the author wishes to express his deep gratitude to Doctor of Technical Sciences M. P. Tsapenko and V. I. Rabinovich, discussions with whom were of great help to the author. Orig. art. has: 2 tables, 5 figures, and 8 formulas.

SUB CODE: 09,12/ SUBM DATE: 10Sep64/ ORIG REF: 005/ OTH REF: 002

L 47219-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) IJP(c)

ACC NR: AP6015322 (N) SOURCE CODE: UR/0410/65/000/003/0019/0025

AUTHOR: Yefimov, V. M. (Novosibirsk)

45
B

ORG: none

TITLE: Interpolation of randomly varying quantities in telemetry and remote control problems by means of the Lagrange polynomial

9

SOURCE: Avtometriya, no. 3, 1965, 19-25

TOPIC TAGS: Lagrange polynomial, telemetering data, interpolation, time optimal control

ABSTRACT: The report considers threshold limitations of the Lagrange polynomial in interpolating randomly variable quantities in telemetry and remote control problems. The author presents several working formulas which simplify the determination of optimal time interval and sensor spacing, as well as the selection of the most appropriate degree of the Lagrange polynomial. In conclusion, the author considers it his duty to thank Doctor of Tech. Sci. M. P. Tsapenko whose comments contributed to an improvement of the work. Orig. art. has: 1 table and 17 formulas.

SUB CODE: 09,12/ SUBM DATE: 15Feb65/ ORIG REF: 006

Card 1/1 fv UDC: 681.2.08

L 08180-67
ACC NR: AP6016322 (N) SOURCE CODE: UR/0410/65/000/005/0017/0025

AUTHOR: Yefimov, V. M. (Novosibirsk)

ORG: none

TITLE: The correlation function of discretion error

SOURCE: Avtometriya, no. 5, 1965, 17-25

TOPIC TAGS: correlation function, error, error correcting code, error statistics, discrete automation, dispersion equation

ABSTRACT: Discretion error is defined as a quantization noise by amplitude. It equals the difference between the output and input values of the quantizing device and has a functional relationship to the quantization process. The statistical characteristics for this type of error are developed for a problem involving the determination of the time interval between measurements. If the mean square error is used as an accuracy criterion, then the correlation function is required for the calculation. Relations are established for the determination of the correlation function requiring only two statistical characteristics of the derivative increment of the stationary quantized process. These two characteristics are: the first absolute moment, and the dispersion. The maximum value of the overshoot can be obtained from the Bunjakowskii-Schwarz inequality. A lower estimation of the correlation function is developed. Orig. art. has: 14 formulas, 1 table.

SUB CODE: 13,09/ SUBM DATE: 12Jul65/ ORIG REF: 003
UDC: 681.2.08

Card 1/1

YEFIMOV, V.N.

YEFIMOV, V.N.

Improve work on safety measures and labor protection. Der. prom. 6 no.10:27-28 O '57. (MIRA 10:11)

1. Velikolukskaya mebel'naya fabrika.
(Wood-using industries--Safety measures)

BOROVYAGIN, V.L.; YEFIMOV, V.N.; DUBROV, A.P.

Method of making glass knives for ultramicrotomy. Biofizika 3 no.6:732-734 '58. (MIRA 12:1)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(MICROTOMES,
glass knives (Rus))

AUTHOR: Yefimov, V. N. SOV/56-35-1-19/59

TITLE: The Scattering of Slow Neutrons on Deuterons (Rasseyaniye medlennykh neytronov na deytronakh)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 35, Nr 1, pp. 137 - 142 (USSR)

ABSTRACT: The present paper aimed at calculating scattering lengths by means of a variation method. Deuteron deformation is taken into account. It was assumed that the radial dependence of the nuclear potential corresponds to a Gaussian curve; the parameters were selected in such a manner that they agree with the data obtained of n - p - interactions at low energies. Calculations were carried out only for exchange forces of the Serber type. Two characteristic scattering lengths exist for this scattering: a_4 (for spin 3/2) and a_2 (for spin 1/2). According to reference 1 the analysis of experimental data furnishes two pairs of possible values of a_4 and a_2, viz: $a_4 = 6{,}2 \cdot 10^{-13}$ cm and $a_2 = 0{,}8 \cdot 10^{-13}$ cm, as well as $a_4 = 2{,}4 \cdot 10^{-13}$ cm and $a_2 = 8{,}3 \cdot 10^{-13}$ cm

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respectively. A theoretical verification of these values was attempted by a number of authors (Refs 2-8); Hulthèn (Khyul'ten), for example, obtained $a_1=5,9.10^{-13}$cm and $a_2=1,5.10^{-13}$cm. In the present paper calculations (see also table) lead to the following results: $a_1=6,3.10^{-13}$cm and $a_2=1,1.10^{-13}$cm. The author, in conclusion, thanks M.V.Kazarnovskiy and A.S.Davydov for their discussions and for the constant interest they displayed in his work. There are 1 table and 10 references, 2 of which are Soviet.

ASSOCIATION: Fizicheskiy institut im.P.N.Lebedeva Akademii nauk SSSR (Physics Institute imeni P.N.Lebedev, AS USSR)

SUBMITTED: February 5, 1958

ACCESSION NR: AP4009090 S/0056/63/045/006/1743/1753

AUTHORS: Wang, Nai-yen; Vizi, I.; Yefimov, V. N.; Karzhavina, E. N.; Kim, Khi San; Popov, A. B.; Pikel'ner, L. B.; Pshitula, M. I.; Stadnikov, T.; Ch'eng, Ling-yen; Sharapov, E. I.; Shelontsev, I. I.; Shirikova, N. Yu.; Yazvitskiy, Yu. S.

TITLE: Investigation of the neutron resonances of Rh-103

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 45, no. 6, 1963, 1743-1753

TOPIC TAGS: rhenium 103, neutron resonance, slow neutron spectrometry, p neutrons, s neutrons, force functions, Porter Thomas law, transmission measurement, scattering measurement, capture measurement

ABSTRACT: This is a report of the first results obtained with the slow neutron spectrometer developed at the Ob'yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research)

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ACCESSION NR: AP4009090

(described by Blokhin et al, in Atomnaya energiya, v. 10, 437, 1961) for a systematic investigation of neutron resonances and for the accumulation of a complete set of parameters for each neutron resonance study. The development was stimulated by the fact that as a rule the number of resonances known for each individual element is statistically limited, and the acquisition of new data on the resonances and their spins is of timely interest. Transmission, scattering and capture measurements were made with this spectrometer for several samples of Rh^{103}, which in addition to being a convenient element for such investigations also lies in the region where resonances induced by p-neutrons might be discovered. The measurements were made at resolutions of 0.04, 0.08, and 0.05 μsec/m, and the parameters of 17 resonances and the spins of 8 levels were determined. The observed deviation from the Porter-Thomas law with a single degree of freedom is attributed to the fact that some 4 or 5 resonances are due to neutrons with unity orbital angular momenta. Force functions for neutrons with zero and unity momenta were esti-

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ACCESSION NR: AP4009090

mated under these assumptions at $S_0 = (0.46 \pm 0.18) \times 10^{-4}$ and $S_1 =$ $= (1.8 \pm 1.4) \times 10^{-4}$. "In conclusion, we thank I. M. Frank and F. L. Shapiro for interest in the work and for useful discussions." Orig. art. has: 7 figures, 9 formulas, and 2 tables.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 01Jun63	DATE ACQ: 02Feb64	ENCL: 01
SUB CODE: PH	NO REF SOV: 007	OTHER: 006

Card 3/4

KALIMULLIN, B.G., otv. red.; DOKHTUROV, P.P., red.; YEFIMOV, V.N., red.; GROBOVA, Yu.P., red.; SHAFIN, I.G., tekhn. red.

[Problems of designing and building in Ufa] Voprosy planirovki i zastroiki Ufy. Ufa, 1961. 78 p.
(MIRA 17:3)

1. Geograficheskoye obshchestvo SSSR. Bashkirskiy filial.
2. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Kalimullin).

YEFIMOV, V.N.

[Interaction of resonance neutrons with aligned nuclei] Vzaimodeistvie rezonansnykh neitronov s vystroennymi iadrami. Dubna, Ob"edinennyi in-t iadernykh issledovanii, 1963. 13 p. (MIRA 16:10)
(Nuclear reactions) (Neutrons—Scattering)

KRASOVSKIY, G.A., kand.tekhn.nauk; GMYZIN, N.I., starshiy nauchnyy sotrudnik; YEFIMOV, V.N., inzh.

Automatic device for programming and route assigning in hump yard interlocking systems. Avtom., telem. i sviaz' 6 no.3:3-8 Mr '62. (MIRA 15:3)

1. Ural'skoye otdeleniye Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta Ministerstva putey soobshcheniya (for Gmyzin).
(Railroads--Signaling--Interlocking systems)
(Railroads--Hump yards)

VAN NAY-YAN' [Wang Nai-yen]; VIZI, I.; YEFIMOV, V.N.; KARZHAVINA, E.N.; KIM EHI SAN; POPOV, A.B.; PIKEL'NER, L.B.; PSHITULA, M.I.; STADNIKOV, T.; CHEN LIN-YAN'; CHARAPOV, E.I.; SHELONTSEV, I.I.; SHIRIKOVA, N.Yu.; YAZVITSKIY, Yu.S.

Neutron resonances in Rh^{103}. Zhur. eksp. i teor. fiz. 45 no.6:1743-1753 D '63. (MIRA 17:2)

1. Ob"yedinennyy institut yadernykh issledovaniy.

ACCESSION NR: AP4043634 S/0056/64/047/002/0581/0592

AUTHORS: Yefimov, V. N.; Amus'ya, M. Ya.

TITLE: Ground state of a rarefied Fermi gas of rigid spheres

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 2, 1964, 581-592

TOPIC TAGS: Fermi statistical theory, pair theory, Schrodinger equation, correlation function, Fermi Dirac gas, wave function

ABSTRACT: The correlation in the ground states of Fermi systems with pair interaction is considered by a method which allows successive inclusion of correlations of increasingly higher order (two-particle, three-particle, etc.). The method consists of writing out a chain of equations for n-particle correlators, equivalent to the exact Schrodinger equation. The method is applied to a Fermi gas consisting of rigid spheres, and the energy of the ground state of such a gas is calculated with accuracy to $(p_F a)^3$, where p_F is the

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ACCESSION NR: AP4043634

Fermi momentum and a is the diameter of the sphere. The gas is assumed to have low density. The correlators are first defined, the equations for them are derived, after which the rigid spheres are brought into consideration. The details of the derivation are presented in an appendix. The following properties are claimed for the employed method. 1. The main objects of the study, the correlation functions, have an intuitive meaning of wave functions of correlated groups. 2. The correlators constitute blocks of diagrams in the language of field theory, making this method more economical and more natural. 3. The method is equally applicable to finite and infinite systems. 4. The use of a variational principle, any physical information in the structure of the correlation function can be taken into account in the best fashion. "The authors thank L. A. Sliv, B. L. Birbrair, O. V. Konstantinov, S. V. Maleyev, V. I. Perel', G. M. Shklyarevskiy, and G. M. Eliashberg for a discussion."
Orig. art. has: 45 formulas.

Card 2/3

ACCESSION NR: AP4043634

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute, Academy of Sciences SSSR)

SUBMITTED: 14Feb64 ENCL: 00

SUB CODE: GP, NP NR REF SOV: 000 OTHER: 002

Card 3/3

EFIMOV V.N.

B-1

USSR/General Biology - Physical and Chemical Biology

Abs Jour : Ref Zhur - Biol., No 3, 1958, No 9393

Author : Maksimov, G.A., Kryukova, L.M., Efimov, V.N.

Inst : Not Given

Title : Thermal Phenomena in Plant Seeds During Swelling

Orig Pub : Biofizika, 1956, 1, No 6, 538-543

Abstract : Processes of heat formation were studied during swelling of living and non-germinating seeds of wheat and squash, and also the nature of shifting of mass in the swelling process depending on timing in equash seeds containing radioactive Ca^{45}. When the grain mass of wheat and squash seed mass swells under isothermic conditions, the quantity of isolated sorption heat reaches a maximum after 7-9 hours, irrespective of the seeds' germinating power. This heating, therefore, occurs independently of respiration. Then comes a cooling off period. Seeds devoid of germination continue to cool off, while in the living seeds, after cooling off by 0.5°, the temperature again markedly increases for 3.5-4 hours, which evidently is the result of an intense increase in respiration. The rise of temperature on the bud surface of a living seed stays ahead of the temperature rise of the endosperm center and even more so in its surface sheath. The temperature gradient between the bud region and surface sheath reaches 0.2°/0.6 mm and between the bud region and endosperm 0.05°/0.6 mm. In swelling of dead wheat grain the highest temperature was observed in the endosperm. A coincidence was noted between the time needed for full manifestation of heat for swelling and the time for stabilization of the direction for mass shifting to the germination region.

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APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001962410005-3

USSR/General Biology - Physical and Chemical Biology B-1

Abs Jour : Ref Zhur - Biol., No 3, 1958, No 9393

YEFIMOV, V.N.

Types of calcium and iron accumulation in peat bogs. Dokl.AN SSSR 138 no.2:435-436 My '61. (MIRA 14:5)

1. Leningradskiy sel'skokhozyaystvennyy institut. Predstavleno akademikom V.N.Sukachevym.
(Leningrad Province—Peat bogs) (Calcium) (Iron)

YEFIMOV, V.N.

Forms of the accumulation and migration of various substances in bog soils. Pochvovedenie no.6:67-76 Je '61. (MIRA 14:6)

1. Leningradskiy sel'skokhozyaystvennyy institut.
(Peat soils)

ACC NR: AT6022720 SOURCE CODE: UR/3032/66/000/073/0255/0266

AUTHOR: Yefimov, V. N.; Ol'shvang, M. V.; Tsfasman, G. M.

ORG: none

TITLE: Power units in thyristorized field regulators

SOURCE: Moscow. Vsesoyuznyy elektrotekhnicheskiy institut. Trudy, no. 73, 1966. Avtomaticheskiye regulyatory vozbuzhdeniya (Automatic excitation regulators), 255-266

TOPIC TAGS: thyristor, field regulator, automatic regulation

ABSTRACT: The TUP power unit consists of a controlled rectifier (having a three-phase bridge circuit) and a control circuit for varying the thyristor turn-on angle depending on the output signal of the summing amplifier of the field regulator. Two variants of the TUP unit have been developed: (1) TUP-1a with

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ACC NR: AT6022720

three thyristors in a bridge circuit and a 3-phase-magnetic-amplifier-type control circuit; and (2) TUP-2a with six thyristors and a semiconductor-device-type control circuit. The TUP-1a is intended for those cases where voltage forcing only during the load-current increase is needed. The minimum turn-on angle of the TUP-1a is about 25°; total rise time to 0.63 ultimate value is 30 msec; disadvantages are: no inverter operation, limited speed of operation, incomplete utilization of thyristor capacity. One TUP-1a unit has been in continuous operation at Bratsk Power Plant since Aug 64. The TUP-2a is intended for those cases where voltage forcing is needed during both increase and decrease of load current; it is free from the above disadvantages. The control circuit of the TUP-2a includes six identical pulse-phase transducers (circuit shown) controlled by a 450-cps summing magnetic amplifier; the time of turn-on angle variation from 90° to 180° is 10 msec or shorter. Orig. art. has: 6 figures and 4 formulas.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 001

Card 2/2

PEREDEL'SKIY, A.A.; GOLIPOVA, L.S.; YEFIMOV, V.N.

Working out electrotechnical methods for controlling sugar beet weevils. Biofizika 1 no.5:472-479 '56. (MLRA 9:10)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(WEEVLS) (BEET PESTS)
(ELECTRICITY IN AGRICULTURE)

L 1980-66 EWT(m)/T/EWA(m)-2

ACCESSION NR: AT5018597 UR/2504/65/033/000/0199/0202

40
34
B+1

AUTHOR: Yefimov, V. N.; Myachkova, S. A.

TITLE: On the phase shifts of elastic n-d scattering

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 33, 1965. Issledovaniye atomnogo yadra s pomoshch'yu zaryazhennykh chastits i neytronov (Investigation of the atomic nucleus using charged particles and neutrons), 199-202

TOPIC TAGS: phase shift analysis, neutron polarization, neutron scattering

ABSTRACT: The paper deals with the still existing ambiguity which arises when the phase shifts of n-d scattering are determined from the angular distribution of the reaction products. Although experiments with polarized targets and polarized beams, which could yield a unique phase shift, have not yet been realized, the authors point out that additional information on the n-d scattering phase shifts can be obtained without the use of a polarized deuterium target, by determining experimentally the polarization of the scattered neutrons. This is feasible by using as analyzers He^4 (elastic scattering) or Mg^{24} (inelastic scattering at the 0.26 Mev level). Such experiments would make it possible to ascertain which of the two sets of phase shifts proposed by A. J. Elwin et al. (Phys. Rev. v. 128, 779, 1962) corresponds to the observed magnitude of the neutron depolarization. "We thank M. V. Kazarnovskiy

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L 1980-66
ACCESSION NR: AT5018597

and I. Ya. Barit for interest in the work and useful discussions." Orig. art. has: 2 figures and 3 formulas.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute, AN SSSR)

SUBMITTED:	00	ENCL: 00	SUB CODE: NP
NR REF SOV:	004	OTHER: 007	

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L 2193-66 EWT(1)
ACCESSION NR: AP5019232 UR/0056/65/049/001/0188/0192

AUTHOR: Yefimov, V. N. 44,55

TITLE: Rarefied Fermi gas and the two-body scattering problem 44,55,21

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 1, 1965, 188-192

TOPIC TAGS: Fermi gas, particle scattering, three body problem

ABSTRACT: The author makes use of an earlier study of the ground state of a rigid-sphere Fermi gas (with M. Ya. Amus'ya, ZhETF v. 47, 581, 1964) and shows that the expansion of the energy of the ground state in terms of the small parameter $\gamma = p_F a$ (p_F = Fermi momentum, a = sphere diameter) can be carried out only up to terms of order γ^4, in view of the lack of a solution of the three-body problem. Evaluation of the terms of order γ^4 is equivalent to the solution of the three-body scattering problem at zero energy. In addition to evaluating these terms, which become significant as the density increases and the three-body collisions assume a more important role, the author calculates also the preceding term in the expansion (proportional to $\gamma^4 \ln \gamma$, not evaluated in the earlier paper), which depends only on the parameters of the two-body problem. The results of the present and preceding

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papers are generalized to a Fermi gas with an arbitrary repulsive interaction of finite range, for which the contribution to the energy and the logarithmic term are evaluated. "The author thanks M. Ya. Amus'ya and L. A. Sliv for discussions." Orig. art. has: 25 formulas. 44,55 47,55

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute, Academy of Sciences SSSR).

SUBMITTED: 28Dec64 ENCL: 00 44,55 SUB CODE: NP

NO REF SOV: 002 OTHER: 002

Card 2/2 DP

CHURAKOV, A.I.; MIKHALYUK, Yu.P.; YEFIMOV, V.P.

Production of high-quality concentrates at the Yuzhno-Korobkovskaia ore Dressing Plant of the "KMAruda" Combine. Gor. zhur. no.11:50-52 N '63. (MIRA 17:6)

1. Gosudarstvennyy gornorudnyy kombinat Kurskoy magnitnoy anomalii.

YEFIMOV, V.N.; AMUS'YA, M. Ya.

Ground state of a rarefied Fermi gas consisting of rigid spheres. Zhur. eksp. i teor. fiz. 47 no.2:581-592 Ag '64. (MIRA 17:10)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR.